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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/740,733  
Filing Date: December 19, 2000  
Appellant(s): BILLINGS ET AL.

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Peter Ludwig  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 03/25/08 appealing from the Office action mailed 01/28/08.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,535,883 B1	LEE et al.	03-2003
6,662,340 B2	RAWAT et al.	12-2003
2002/0010714 A1	HETHERINGTON	01-2002
6,199,079 B1	GUPTA et al.	03-2001

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-10, 13-15, 18-22, and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawat, US 6,662,340 B2, 12/9/03 (field 5/30/02,

Continuation-in-part of application filed on 4/28/00) in view of Lee et al., US 6,535,883 B1, 03/18/03 (filed 08/04/1999).

In reference to claims 1 and 25, Rawat discloses a means for assigning labels for fields lacking a label (or tag). See abstract. Rawat discloses assigning a label to fields that do not have labels and mapping a field according to its context or using an algorithm to analyze the field's programmatic name. See columns 6, lines 61-67 and column 7. This meets the limitation, ***providing labels to be assigned respectively to fields; assigning the labels to the fields***". Rawat teaches providing labels to content in fields in a database record which meets the limitation, ***extracting and arranging the contents in a database record, in which the contents of the fields are identified by the assigned labels***. See column 4, lines 28-67.

Rawat does not teach ***one or more rules applicable to the filled-in contents of the fields, machine reading the respective contents that have been filled into the fields***, or that the assigning of labels to the fields is ***responsive to the application of the rules of the content***"; however, Lee teaches all of the fields in a document will comprise an associated validation rule which tests the contents of each field entered by the user to ensure it is filled out correctly. This meets the limitation, ***one or more rules applicable to the filled-in contents of the fields***. Lee's testing of the content of the fields is done either after a user has entered data into the field or after the form has been transmitted back to a centralized server computer. See column 2, lines 24-37. Compare to ***machine reading the respective contents that have been filled into the***

**fields.** It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Rawat's label assignment with Lee's application of rules to "filled-in" content in order to arrive at a method for ***assigning the labels to the fields by testing the contents of the fields against the rules in order to find an assignment of the labels to the fields that satisfies the rules*** because it was desirable to provide labels for fields lacking labels in order to provide a user with a visual page element that communicated a field's purpose to a user. See column 3, lines 30-45 of Rawat. Furthermore, in assigning rules to all the fields of the document to determine whether the filled-in content is accurate, the system is able to determine what type of information/data is contained within the field and thus assign a label appropriately.

In reference to claim 2, Rawat discloses analyzing the field's programmatic name. Following the field name analysis, the field name is compared to the entries in the field label dictionary and a match is found. See column 7, lines 1-35.

In reference to claim 3, Rawat discloses a means in which if a field lacks a label, the system identifies the mapping of at least one field preceding a current field and the mapping of the current field is based on the mapping of the preceding field. See column 10, lines 45-55.

In reference to claim 6, Rawat discloses a means in which if a field lacks a label, the system identifies the mapping of at least one field preceding a current field and the mapping of the current field is based on the mapping of the preceding field. See column 10, lines 45-55.

In reference to claims 7-10, Rawat discloses analyzing the field's programmatic name. Following the field name analysis, the field name is compared to the entries in the field label dictionary and a match is found. See column 7, lines 1-35. The dictionary could provide multiple label options such as a "area code" or "phone number" for a field comprising numbers. See columns 7-8. Rawat discloses utilizing the default value with the field label dictionary that is found in the mapping of the field name to the dictionary as the label. See column 7, lines 1-35.

Claims 13-15 and 18-22 are rejected under the same rationale used in claims 1-3 and 6-10 respectively above.

In reference to claim 26, Rawat discloses a means for assigning labels for fields lacking a label (or tag). See abstract. Rawat discloses assigning a label to fields that do not have labels. Mapping a field according to its context or using an algorithm to analyze the field's programmatic name. See columns 6, lines 61-67 and column 7. This meets the limitation, ***providing labels to be assigned respectively to fields; assigning the labels to the fields***. Rawat teaches providing labels to content in fields

in a database record which meets the limitation, ***extracting and arranging the contents in a database record, in which the contents of the fields are identified by the assigned labels.*** See column 4, lines 28-67.

Rawat discloses a means in which if a field lacks a label, the system identifies the mapping of at least one field preceding a current field and the mapping of the current field is based on the mapping of the preceding field which meets the limitation, ***one or more geometrical rules indicated an expected geometrical relationship between two or more of the filled-in fields in the form.*** See column 10, lines 45-55.

Rawat does not teach ***assigning labels based on testing the information in the fields against rules in order to find an assignment of the labels to the fields that satisfies the rules***; however, Lee does. Lee teaches all of the fields in a document will comprise an associated validation rule which tests the contents of each field entered by the user to ensure it is filled out correctly. Lee's testing of the content of the fields is done either after a user has entered data into the field or after the form has been transmitted back to a centralized server computer. See column 2, lines 24-37.

This meets the limitation, ***assigning the labels to the fields by testing the information in the fields against the rules in order to find an assignment of the labels to the fields that satisfies the rules.*** It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Rawat's label assignment with Lee's application of rules to "filled-in" content in order to arrive at a method for ***assigning the labels to the fields by testing the information in the fields against***



***the rules in order to find an assignment of the labels to the fields that satisfies the rules*** because it was desirable to provide labels for fields lacking labels in order to provide a user with a visual page element that communicated a field's purpose to a user. See column 3, lines 30-45 of Rawat. Furthermore, in assigning rules to all the fields of the document to determine whether the filled-in content is accurate, the system is able to determine what type of information/data is contained within the field and thus assign a label appropriately.

Claims 28 and 29 are rejected under the same rationale used in claim 26 above.

In reference to claim 27, Rawat teaches that the form can comprise a plurality of fields which could include a form that is a table. The rest of claim 27 is rejected under the same rationale used in claim 1 above.

In reference to claim 30, Rawat does not teach a paper document; however, Lee teaches where a service provider already has a set of paper forms, a form template may be created for a paper form by creating a text file and typing in the name of the form, as well as names for fields of the form. In this manner, a service provider's paper forms may very quickly be converted into form templates. Those skilled in the art will appreciate that other methods of creating form templates may be employed without departing from the spirit of the invention. It would have been obvious to a person of

ordinary skill in the art at the time of the invention to provide a preprinted template for paper forms in order to easily convert the paper document into an electronic version.

Claims 4-5 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawat, US 6,662,340 B2, 12/9/03 (field 5/30/02, Continuation-in-part of application filed on 4/28/00) in view of Lee et al., US 6,535,883 B1, 03/18/03 (filed 08/04/1999), As applied to claim 1 and 13, and further in view of Hetherington, US 2002/0010714 A1, 1/24/02 (filed 7/3/01, divisional of application filed 8/6/98).

In reference to claims 4-5 and 16-17, Rawat/Lee do not teach that the relation between the content fields is mathematical or semantic; however, Hetherington teaches a method of examining elements of data to determine attributes and examining the content of the elements and the contextual relationships to each other to determine semantic or syntactic information about the data. See page 17, paragraph [0370]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate Hetherington's relationship matching in the system of Rawat/Lee in order to assign labels to the control items in an appropriate manner relative to the type of relationship among the different fields.

Claims 11-12 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawat, US 6,662,340 B2, 12/9/03 (field 5/30/02, Continuation-in-part of application filed on 4/28/00) in view of Lee et al., US 6,535,883 B1, 03/18/03 (filed

08/04/1999), As applied to claim 1 and 13, and further in view of Gupta et al., US 6,199,079 B1, 3/6/01 (filed 3/20/98).

In reference to claims 11-12 and 23-24, Rawat/Lee does not teach that the document comprises a plurality of form documents sharing a common layout and that the assignment is made with respect to all form documents. Rawat also does not teach that the assignment comprises choosing the assignment so as to satisfy a statistical criterion with respect to the satisfaction of the rules by the contents of the fields. Gupta, however, teaches identifying and matching identifiers from a form to a plurality of pages. See figure 1D and columns 9-10. The attributes are obtained from a first page and a matching pattern is determined to use the information for subsequent forms.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate Gupta's recognition of patterns of data in fields of different forms to the system of Rawat/Lee as it extends its use to more than one document thus allowing fields of multiple documents to be labeled appropriately thus saving time spent by a user manually entering labels for common fields among multiple documents.

**(10) Response to Argument**

***I. The Section 103(a) Rejection of Independent Claims 1, 13, and 25.***

On page 7-9, Appellant argues Rawat in view of Lee teach a diametrically opposite approach to the method of claim 1. Specifically, Appellant argues in the current invention, the labels are assigned to fields by testing the contents of the field against the rules in order to find an assignment of the labels to the fields that satisfy the rules. In other words, rather than using labels to decide how to handle the field content, the field contents themselves are used with rules in determining the labels that are to be assigned to the fields.

Examiner disagrees that Rawat in view of Lee do not teach the invention.

Regarding the feature argued above with respect to *the labels are assigned to fields by testing the contents of the field against the rules in order to find an assignment of the labels to the fields that satisfy the rules*. Examiner stated in the rejections, Rawat does not expressly teach reading the contents that are in the field or responsive to the application of rules of the content; however, Lee teaches all fields in a document comprise a validation rule that tests the content of each field to ensure it is filled out correctly. Examiner's rejections rely on Lee to teach the feature of reading the contents of the fields to see that it satisfies some rule. The **combination** of Rawat and Lee

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teaches the feature of assigning the labels to fields responsive to the application of the rules of the content.

However, it does not seem Appellant is actually arguing whether the references teach each of the claimed features of the current invention, but rather the manner in which it is accomplished. For instance on page 8 and 9, Appellant argues “the method of claim 1 takes a diametrically opposite approach” and “paradigm switch”.

Examiner disagrees that there is a different approach taught by Rawat in view of Lee.

Rawat discloses assigning a label to fields that do not have labels and mapping a field according to its context or using an algorithm to analyze the field’s programmatic name. See columns 6, lines 61-67 and column 7. This meets the limitation, ***providing labels to be assigned respectively to fields; assigning the labels to the fields***”.

Rawat teaches providing labels to content in fields in a database record which meets the limitation, ***extracting and arranging the contents in a database record, in which the contents of the fields are identified by the assigned labels***. See column 4, lines 28-67.

Rawat does not teach ***one or more rules applicable to the filled-in contents of the fields, machine reading the respective contents that have been filled into the fields***, or that the assigning of labels to the fields is ***responsive to the application***

**of the rules of the content”**; however, Lee teaches all of the fields in a document will comprise an associated validation rule which tests the contents of each field entered by the user to ensure it is filled out correctly. This meets the limitation, **one or more rules applicable to the filled-in contents of the fields**. Lee’s testing of the content of the fields is done either after a user has entered data into the field or after the form has been transmitted back to a centralized server computer. See column 2, lines 24-37. Compare to **machine reading the respective contents that have been filled into the fields**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Rawat’s label assignment with Lee’s application of rules to “filled-in” content in order to arrive at a method for **assigning the labels to the fields by testing the contents of the fields against the rules in order to find an assignment of the labels to the fields that satisfies the rules** because it was desirable to provide labels for fields lacking labels in order to provide a user with a visual page element that communicated a field’s purpose to a user. See column 3, lines 30-45 of Rawat. Furthermore, in assigning rules to all the fields of the document to determine whether the filled-in content is accurate, the system is able to determine what type of information/data is contained within the field and thus assign a label appropriately.

Examiner believes every limitation of claim 1 has been met. It is noted that the claims do require first “providing labels to the fields”, then machine reading contents in the field and assigning the labels to the fields by testing the contents. In other words,

the claim is written in a manner that does require providing a label first, then reading the contents in the field to assign a label that satisfies the rules applicable to the filled-in contents.

***II. The Section 103(a) Rejection of Independent Claims 26, 28, and 29.***

On pages 10-11 of the Brief, Appellant argues claims 26, 28, and 29 are patentable because:

- 1) The references do not teach assigning labels to fields by testing the information in the fields against the rules, as explained above in claim 1.

Examiner disagrees in light of the comments made regarding this feature with respect to claim 1 above.

- 2) The cited references do not teach the use of geometrical rules.

Examiner disagrees.

Geometrical rules are merely the geometrical relationship between two fields. Rawat discloses a means in which if a field lacks a label, the system identifies the mapping of at least **one field preceding a current field** and the mapping of the current

field is based on the mapping of the preceding field which meets the limitation, ***one or more geometrical rules indicated an expected geometrical relationship between two or more of the filled-in fields in the form.*** See column 10, lines 45-55. In determining which field precedes the current field, geometrical relationships are determined.

- 3) The passage in Rawat alleged to teach such rules is ineffective as prior art.

Examiner disagrees.

Appellant argues that in order for Rawat to be effective as prior art, the '028 patent from which it claims priority as a Continuation-in-part, must disclose that it was desirable to provide labels for fields lacking labels. Specifically, Appellant argues that the '028 patent does not teach a geometrical structure. Examiner disagrees in light of the following remarks. The '028 patent discloses a mapping process for recognizing a form's fields and structure in order to identify required fields and match form fields with user data fields in the database to which they correspond. See column 12, lines 24-36. The '028 patent further teaches that a net result of the mapping process is that a form is parsed, its structure analyzed, and an identifier string is created and assigned from a concatenation of all the required fields in the form. The data fields can then be matched with the user data stored in the database. The '028 patent further discusses that forms can be structured such that fields are not assigned names, assigned the same name, or



one or more fields are assigned dynamic names (i.e. labels). See column 13, lines 5-54. Assigning a dynamic field name requires examining the contents or structure of the document.

### ***III. The Section 103(a) Rejection of Claims 3 and 15***

Appellant argues claims 3 and 15 are patentable for reasons stated above with respect to claims 1 and 13 and because the rules applicable to the filled-in contents of the fields comprise a relation between the contents of two or more fields.

Appellant argues that in order for Rawat to be effective as prior art, the '028 patent from which it claims priority as a Continuation-in-part, must disclose that it was desirable to provide labels for fields lacking labels. Specifically, Appellant argues that the '028 patent does not teach relations between content fields. Examiner disagrees in light of the following remarks. The '028 patent discloses a mapping process for recognizing a form's fields and structure in order to identify required fields and match form fields with user data fields in the database to which they correspond. See column 12, lines 24-36. The '028 patent further teaches that a net result of the mapping process is that a form is parsed, its structure analyzed, and an identifier string is created and assigned from a concatenation of all the required fields in the form. The data fields can then be matched with the user data stored in the database. The '028 patent further discusses that forms can be structured such that fields are not assigned names, assigned the same name, or one or more fields are assigned dynamic names (i.e.

labels). See column 13, lines 5-54. Assigning a dynamic field name requires examining the contents or structure of the document.

Examiner further refers to the comments made with respect to claim 1 above.

***IV. The Section 103(a) Rejection of Claims 4 and 16.***

Appellant argues claims 4 and 16 are patentable because Hetherington fails to teach a mathematical relationship. Appellant argues that while Hetherington teaches using mathematical rules, he provides no teaching of a mathematical relation.

Examiner disagrees.

Hetherington teaches a method of examining elements of data to determine attributes and examining the content of the elements and the contextual relationships to each other to determine semantic or syntactic information about the data. See page 17, paragraph [0370]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate Hetherington's relationship matching in the system of Rawat/Lee in order to assign labels to the control items in an appropriate manner relative to the type of relationship among the different fields.

***V. The Section 103(a) Rejection of Claims 5 and 17***

Appellant argues claims 5 and 17 are patentable because Hetherington fails to teach a semantic relationships. Appellant argues that while Hetherington teaches using semantic attributes and examining relationships between elements to determine those semantic attributes but does not teach semantic relationships.

Examiner disagrees.

Hetherington teaches a method of examining elements of data to determine attributes and examining the content of the elements and the contextual relationships to each other to determine semantic or syntactic information about the data. See page 17, paragraph [0370]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate Hetherington's relationship matching in the system of Rawat/Lee in order to assign labels to the control items in an appropriate manner relative to the type of relationship among the different fields.

***VI. The Section 103(a) Rejection of claims 6 and 18***

Appellant argues claims 6 and 18 are patentable because geometrical relationships are not supported in the '028 patent.

Examiner disagrees.

Examiner disagrees in light of the following remarks. The '028 patent discloses a mapping process for recognizing a form's fields and structure in order to identify required fields and match form fields with user data fields in the database to which they correspond. See column 12, lines 24-36. The '028 patent further teaches that a net result of the mapping process is that a form is parsed, its structure analyzed, and an identifier string is created and assigned from a concatenation of all the required fields in the form. The data fields can then be matched with the user data stored in the database. The '028 patent further discusses that forms can be structured such that fields are not assigned names, assigned the same name, or one or more fields are assigned dynamic names (i.e. labels). See column 13, lines 5-54. Assigning a dynamic field name requires examining the contents or structure of the document.

***VII. The Section 103(a) Rejection of Claims 7 and 19***

Appellant argues claims 7 and 19 are patentable because the references do not teach assigning labels to fields where the contents are rejected if they do not satisfy the rules.

Examiner disagrees.

Rawat discloses analyzing the field's programmatic name. Following the field name analysis, the field name is compared to the entries in the field label dictionary and a match is found. See column 7, lines 1-35. The dictionary could provide multiple label options such as a "area code" or "phone number" for a field comprising numbers. See columns 7-8. Rawat discloses utilizing the default value with the field label dictionary that is found in the mapping of the field name to the dictionary as the label. See column 7, lines 1-35.

***VIII. The Section 103(a) Rejection of Claims 10 and 22***

Appellant argues claims 10 and 22 recite labels are assigned to fields by finding alternative candidate assignments. Appellant argues Rawat does not teach this feature.

Examiner disagrees.

Rawat discloses analyzing the field's programmatic name. Following the field name analysis, the field name is compared to the entries in the field label dictionary and a match is found. See column 7, lines 1-35. The dictionary could **provide multiple label options** such as a "area code" or "phone number" for a field comprising numbers. See columns 7-8. Rawat discloses utilizing the default value with the field label dictionary that is found in the mapping of the field name to the dictionary as the label. See column 7, lines 1-35.

***IX. The Section 103(a) Rejection of Claims 12 and 24***

Appellant argues claims 12 and 24 require the labels are assigned to fields by choosing an assignment that satisfies a statistical criterion with respect to the satisfaction of the applicable rules by the contents of the fields in a plurality of form documents. Appellant argues none of Rawat, Lee, or Gupta teach this feature.

Examiner disagrees.

While Rawat does not teach that the assignment comprises choosing the assignment so as to satisfy a statistical criterion with respect to the satisfaction of the rules by the contents of the fields, Gupta teaches identifying and matching identifiers from a form to a plurality of pages. See figure 1D and columns 9-10. The attributes are obtained from a first page and a matching pattern is determined to use the information for subsequent forms.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate Gupta's recognition of patterns of data in fields of different forms to the system of Rawat/Lee as it extends its use to more than one document thus allowing fields of multiple documents to be labeled appropriately thus saving time spent by a user manually entering labels for common fields among multiple documents.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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